

**ENVIRONMENTAL RESTORATION
RFCA STANDARD OPERATING PROTOCOL
FOR ROUTINE SOIL REMEDIATION
FY02 NOTIFICATION #02-10
IHSS GROUP 300-1**



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ACRONYMS

AL	action level
ALARA	as low as reasonably achievable
BMP	Best Management Practice
D&D	Decontamination and Decommissioning
DOE	Department of Energy
ER	Environmental Restoration
ER RSOP	Environmental Restoration RSOP for Routine Soil Remediation
FY	Fiscal Year
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
PAC	Potential Area of Concern
PCOC	potential contaminant of concern
POC	Point of Compliance
POE	Point of Evaluation
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RSOP	RFCA Standard Operating Protocol
SVOC	semi-volatile organic compound
UBC	Under Building Contamination
VOC	volatile organic compound

1.0 INTRODUCTION

This Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) (DOE 2002) Fiscal Year (FY) 02 Notification includes the notification to remediate Individual Hazardous Substance Sites (IHSSs), Potential Areas of Concern (PACs), and Under Building Contamination (UBC) Sites at the Rocky Flats Environmental Technology Site (RFETS) Industrial Area (IA) during FY02. The purpose of this Notification is to invoke the ER RSOP for IHSS Group 300-1. Activities specified in the ER RSOP are not reiterated here, however, deviations from the ER RSOP are included where appropriate.

Soil with contaminant concentrations greater than RFCA Tier I Action Levels (ALs) and associated debris will be removed in accordance with RFCA and the ER RSOP. Soil with contaminant concentrations less than RFCA Tier I ALs will be evaluated for additional removal through the consultative process using stewardship and as low as reasonably achievable (ALARA) considerations (Sections 5.4 and 5.5 of the ER RSOP [DOE 2002]).

Proposed remediation sites covered under ER RSOP Notification #02-10 are listed in Table 1, and the locations are shown on Figure 1.

Table 1
FY02 Potential Remediation Areas for IHSS Group 300-1

IHSS Group	IHSS/PAC/UBC Site	Contaminants	Media	Estimated Volume
300-1	300-128 – Oil Burn Pit #1	Uranium-238 Depleted Uranium VOCs	Surface Soil Beneath Asphalt	> 1 cy
	300-134(N) – Lithium Metal Site	Radionuclides Lithium Magnesium VOCs	Surface and Subsurface Soil	> 1 cy
	300-171 – Solvent Burning Grounds	Magnesium SVOCs VOCs	Surface and Subsurface Soil	> 1 cy

SVOC – semi-volatile organic compound
VOC – volatile organic compound

2.0 IHSS GROUP 300-1

IHSS Group 300-1 includes IHSS 300-128, Oil Burn Pit #1, IHSS 300-134(N), Lithium Metal Site, and IHSS 300-171, Solvent Burning Grounds. The IHSS locations are shown on Figure 2.

2.1 Potential Contaminants of Concern

Potential contaminants of concern (PCOCs) at IHSS Group 300-1 are listed in Table 1 and were determined based on process knowledge and data collected during previous studies (DOE 1992-2001, DOE 2001a, DOE 2000).

2.2 Project Conditions

The following conditions are present at this site

- Two structures are present, Building 335, the Fire Training Building, and Building 331A, the Fire Station Storage Shed,
- Three concrete slabs associated with Building 335 are present, one under the building and two smaller ones north of the building,
- A drainage ditch is located along the north side of the buildings, and
- Shallow groundwater may be present

A propane tank (Tank 115) was located on one of the smaller slabs and was recently removed. A metal carbon dioxide fire extinguisher filling station was located on the other pad and also was removed.

2.3 Remediation Plan

This RSOP Notification remediation plan for IHSS Group 300-1 includes the following objectives

- Remove the three concrete slabs and the caissons/footers associated with Building 335, and recycle in accordance with the RSOP for Recycling Concrete (DOE 1999), or dispose at an appropriate facility, pending waste characterization,
- Grout and remove building drains, and remove other structures and piping within 3 feet of current grade,
- Remove soil with contaminant concentrations greater than RFCA Tier I ALs to a depth of 6 feet,
- Remove soil with contaminant concentrations less than RFCA Tier I ALs if indicated through the stewardship evaluation (Section 2.4), and
- Collect confirmation samples in accordance with the Industrial Area Sampling and Analysis Plan (IASAP) (DOE 2001a)

It is anticipated that after remediation there will be areas at this site with concentrations of metals, radionuclides, and organics greater than background plus two standard deviations or method detection limits, but below RFCA Tier II ALs. Additionally, it is anticipated that there will be a few areas with concentrations above RFCA Tier II ALs.

2.4 Stewardship Evaluation

Based on the PCOCs (Table 1 and Section 2.1) and the ER RSOP (DOE 2002), it is anticipated that all contamination above RFCA Tier I ALs will be remediated. Figure 2

shows the potential remediation area. Additional remediation to below Tier I ALs is not required by RFCA but will be evaluated using the consultative process.

Because the full extent of excavation and remediation is not known at this time, an additional stewardship evaluation will be conducted during remediation using the consultative process. A new map of residual contamination will be generated after remediation. The following sections present the stewardship evaluation.

2.4.1 Proximity to Other Contaminant Sources

IHSS Group 300-1 is in the RFETS IA. It is not located near other potential contaminant sources. The nearest IHSS, PAC or UBC is IHSS 134(S), which is located 170 feet to the south (refer to Figure 2). Therefore, other contaminant sources do not affect stewardship considerations at IHSS Group 300-1.

2.4.2 Surface Water Protection

Surface water protection includes the following considerations:

Is there a pathway to surface water from potential erosion to streams or drainages?

A drainage ditch is located north of Building 335 and Building 331A, and goes through all three IHSSs in IHSS Group 300-1.

Do characterization data indicate there are contaminants in surface soil?

Existing surface soil data from five sampling locations within and near IHSS Group 300-1 indicate that there is some contamination in surface soil (DOE 2001b). Concentrations of plutonium, americium, and lithium are greater than background plus two standard deviations, but less than RFCA Tier II ALs. Data from one sediment sample indicate a zinc concentration above background plus two standard deviations, but less than the RFCA Tier II action level (DOE 2001b). Concentrations for two SVOCs [benzo(a)pyrene and dibenz(a,h)anthracene] were above Tier II ALs but below Tier I ALs.

Do monitoring results from Points of Evaluation (POEs) or Points of Compliance (POCs) indicate there are surface water impacts from the area under consideration?

There are no POEs or POCs in the vicinity of IHSS Group 300-1.

Is the IHSS Group in an area with high erosion potential, based on the 100-Year Average Erosion Map?

Not applicable. The 100-Year Average Erosion Map does not include areas in the IA.

2.4.3 Monitoring

Monitoring includes the following considerations:

Do monitoring results from POEs or POCs indicate there are groundwater impacts from the area under consideration?

There are no POEs or POCs near IHSS Group 300-1. Results from samples taken on 04/16/02 from Well 84902, which is located in the northeastern corner of the IHSS Group, indicate no exceedances of the Tier II ALs.

Can the impact be traced to a specific IHSS Group?

Not applicable

Are additional monitoring stations needed?

Not applicable

Can existing monitoring locations be deleted if additional remediation is conducted?

No, because no POEs or POCs are located near IHSS Group 300-1.

2.4.4 Stewardship Actions and Recommendations

The current stewardship actions and recommendations for IHSS Group 300-1 are as follows:

- Use Best Management Practices (BMPs) to reduce erosion into surface water drainage
- Implement near-term institutional controls until final closure and stewardship decisions are implemented, including the following
 - Signs and barriers,
 - Restrictions on soil excavation, and
 - Soil excavations controlled through the Site Soil Disturbance Permit process
- Implement long-term stewardship actions, including the following
 - Federal ownership, and
 - Land use restrictions to prevent soil excavation. Specific land use restrictions will be discussed in the Site Long-Term Stewardship Plan.

These recommendations may change based on in-process remediation activities and other future RFETS remediation decisions.

2.5 Accelerated Action Remediation Goals

ER RSOP remedial action objectives include the following:

1. Provide a remedy consistent with the RFETS goal of protection of human health and the environment,

- 2 Provide a remedy that minimizes the need for long-term maintenance and institutional or engineering controls, and
- 3 Minimize the spread of contaminants during implementation of accelerated actions

The accelerated action remediation goals for IHSS Group 300-1 include the following

- Remove the three concrete slabs and recycle in accordance with the RSOP for Recycling Concrete (DOE 1999), or dispose at an appropriate facility, pending waste characterization,
- Grout and remove building drains,
- Remove other structures and piping within 3 feet of current grade,
- Remove soil with contaminant concentrations greater than RFCA Tier I ALs, and
- Remove soil with contaminant concentrations less than Tier I ALs if indicated through the stewardship or ALARA evaluations (the consultative process)

2.6 Treatment

Not applicable

2.7 Project-Specific Monitoring

High-volume air samplers may be used at the remediation area consistent with work controls to determine airborne radioactivity concentrations. Approximate locations of air samplers are shown on Figure 2

2.8 Resource Conservation and Recovery Act (RCRA) Units and Intended Waste Disposition

Not applicable

2.9 Administrative Record Documents

DOE, 1992-2001, Historical Release Reports for the Rocky Flats Plant, Golden, Colorado

DOE, 1999, RFCA Standard Operating Protocol for Recycling Concrete, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, 2000, Industrial Area Data Summary Report, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, 2001a, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June

DOE, 2001b, Industrial Area Sampling and Analysis Plan FY 2002 Addendum #IA-02-01, Rocky Flats Environmental Technology Site, Golden, Colorado, November

DOE, 2002, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation, Rocky Flats Environmental Technology Site, Golden, Colorado, January

2.10 Projected Schedule

Remediation of IHSS Group 300-1 is expected to begin in October of FY02

3.0 PUBLIC PARTICIPATION

ER RSOP Notification #02-10 activities will be discussed at the October 2002 ER/D&D Status meeting

4.0 REFERENCES

DOE, 1992-2001, Historical Release Reports for the Rocky Flats Plant, Golden, Colorado

DOE, 1999, RFCA Standard Operating Protocol for Recycling Concrete, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, 2000, Industrial Area Data Summary Report, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, 2001a, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June

DOE, 2001b, Industrial Area Sampling and Analysis Plan FY 2002 Addendum #IA-02-01, Rocky Flats Environmental Technology Site, Golden, Colorado, November

DOE, 2002, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation, Rocky Flats Environmental Technology Site, Golden, Colorado, January

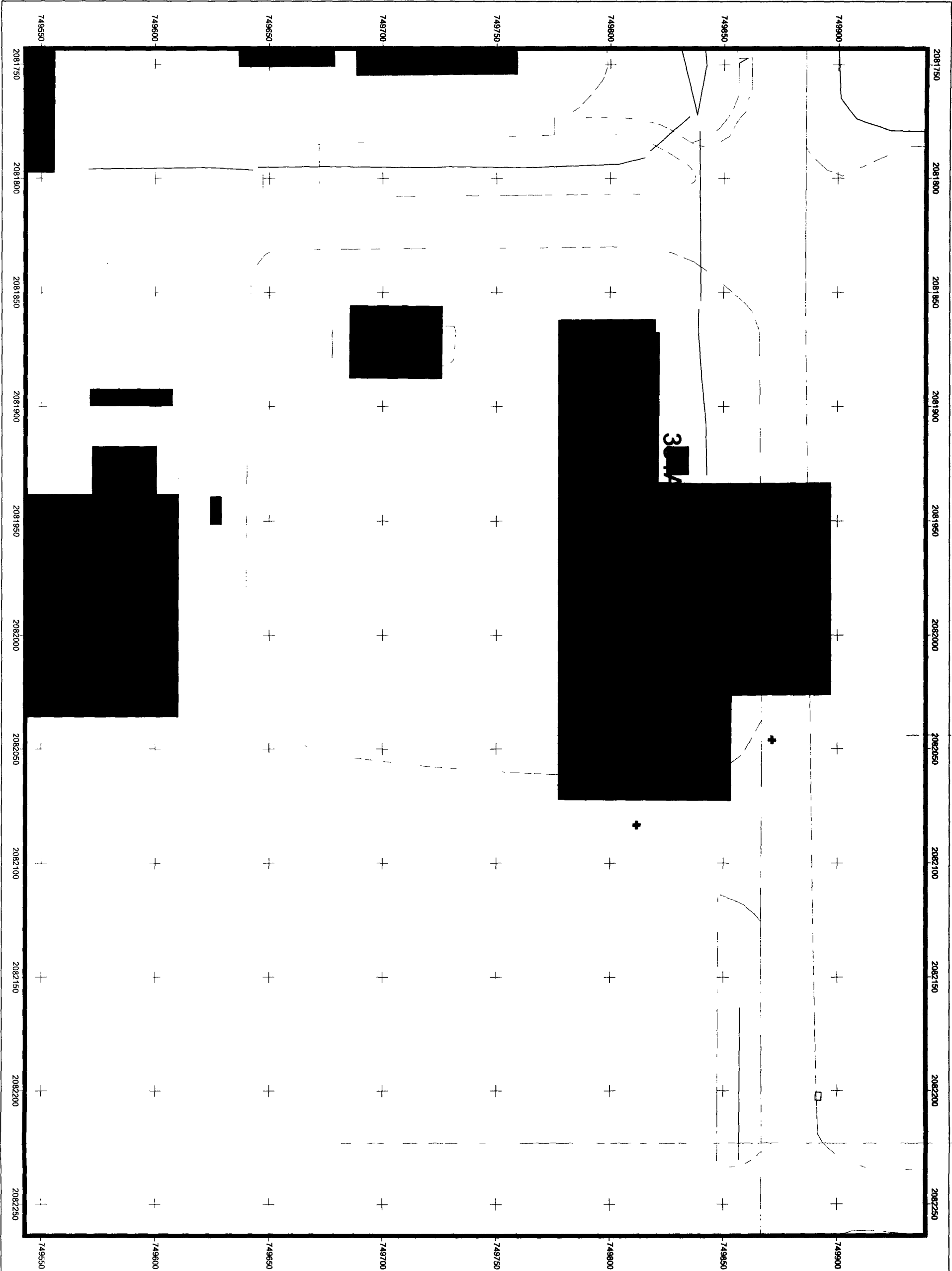


Figure 2
Potential Remediation Area
IHSS Group 300 1

- KEY**
- IHSS Group 300-1
 - Nearby IHSS
 - Building
 - Paved Area
 - Dirt road
 - Streams ditch or other drainage
 - Potential Air Sampling Location



Scale = 1 500



State Plane Coordinate Projection
Colorado Central Zone
Datum NAD 27

U S Department of Energy
Rocky Flats Environmental Technology Site

Prepared by

